GSFC UNIVERSITY
EDUCATION RE-ENVISIONED

B. Tech Computer Science & Engineering

Object Oriented Programming JAVA (BTCS302)

Lab Assignment 2

Objects, classes and Inheritance

1.	Write an application that declares a class named Person. It should have instance variables to record name, age & salary. Use the new operator to create a Person object. Set & display its instance variables.
2.	Write a program of constructor overloading and make zero argument constructor to set the default values of student_name, roll_no and total marks. Declare another constructor with all the three parameters and make use of 'this' keyword. Using methods, display the values of instance members.
3.	Write a program to create a class called Employee, having instance variables like name, age, salary and empno. Initialize all the instance members using constructor and empno should be auto generated by the program. Create an array of objects to define 10 Employees.
4.	Write a program to calculate factorial and Fibonacci series of a given number using recursion.
5.	Crate a class Number having instance variable no. create a method add which add two object's no values. Pass object as method argument.
6.	Demonstrate the use of "static" keyword.
7.	Create a class Vehicle, which has single variable NoOfWheels. Develop two subclasses, TwoWheeler and FourWheeler. Develop subclasses of these 2 subclasses. Create instances of these classes and print appropriate details. (use super keyword).
8.	Create a class "Vehicle" with instance variable vehicle_type. Inherit the class in a class called "Car" with instance model_type, company name etc. display the information of the vehicle by defining the display() in both super and sub class [Method Overriding]
9.	Write a program using interface inheritance. Make two interfaces, one is Shape2D which contains a method to calculate the area of the circle and the second interface Shape3D which contains method to calculate the volume of the sphere. Both the classes, Circle and Sphere extends one abstract class Shape which contains a method display( ) to display the area and volume
10.	Write a program that declares an abstract class A with an abstract method display(). Provide subclasses A1 and A2 that each implements this method. Create instances of these subclasses and invoke the Display () function.
11.	Demonstrate the use of "final" Keyword.
12.	Demonstrate the use of nested class, Inner class, Anonymous inner class and Lambda Expressions.